

Sessile Polychaeta (Serpulidae) of a submarine animal forest (biostalactite field of the submarine cave “lu Lampiune”, SE Italy)

Margherita Licciano, Genuario Belmonte

Department of Biological and Environmental Sciences and Technologies, University of the Salento, Lecce, Italy

ABSTRACT

Marine caves are complex habitats characterized by light and hydrodynamic condition gradients from the entrance toward the darkest inner sectors. The submarine cave “Lu Lampiune” is one of the most complex and largest cave of the Cape of Otranto (Apulia, SE Italy) where the last sector is a chamber crowded with biogenic stalactites based on cores of calcareous tubes of serpulids (Annelida), which are among the dominant sessile taxa living in these confined systems. Biostalactites (BST) are dynamic structures as they represent a surface that is always available for colonization by encrusting organisms that are in turn colonized by following encrusting generations, thus contributing to the continuous growth of BST. In the present study we examined the outer surface of a single BST from the dark sector of the “Lu Lampiune” cave. Coverage of hard skeletons at proximal, intermediate and distal position along the BST was examined in order to detect and identify serpulids at the lowest possible taxonomic level, and provide abundances for each species. Sciaphilic serpulids largely dominated in terms of number of taxa and abundances. *Semivermilia crenata* was the most abundant and widely distributed species along the BST. Almost all the serpulids, however, differently contributed to the surface roughness at the different positions, with the highest abundance values close to the basis and the lowest at the intermediate position along the BST axis. Remarkably, the large *Protula* tubes that built the core of BST and allowed it to grow from 6,000 years ago are currently replaced by smaller serpulid species at surface.

KEYWORDS: Marine Animal Forest, Submarine Cave, Biostalactite, Serpulidae, Mediterranean Sea, Salento Peninsula.